

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-39 (Cancelled).

Claim 40 (Currently Amended): A computer program product for mapping a plurality of cells from a plurality of different cell lines of different cell types after applying a manipulation to said plurality of cells, based upon a statistical analysis of a morphological value, said computer program product comprising:

code for capturing a scalar morphological value derived from a first component of a cell and a second component of said cell from each of said plurality of manipulated cells for each of said plurality of different cell lines;

code for producing a fingerprint characterizing the manipulated cells, wherein the fingerprint comprises a vector of two or more of said scalar morphological values for the plurality of manipulated cells for each of the plurality of different cell lines;

code for producing a statistical profile of said manipulated cells by statistically comparing said fingerprint against fingerprints in a database, wherein said fingerprints in said database are produced from the interactions of cells with drugs having known mechanisms of action ~~application of at least one different manipulation to one or more different cell lines of different cell types~~;

code for mapping said plurality of manipulated cells based upon said statistical profile; and

a computer readable storage medium for holding the codes,

wherein said morphological value is a cell count, an area, a perimeter, a length, a breadth, a fiber length, a fiber breadth, a shape factor, an elliptical form factor, an inner radius, an outer radius, a mean radius, an equivalent radius, an equivalent sphere volume, an equivalent prolate volume, an equivalent oblate volume, an equivalent sphere surface area, an average gray value, a total gray value, or an optical density.

Claim 41 (Original): The computer program product of claim 40 wherein said first component and said second component are selected from a protein, a protein modification, a nucleic acid, a lipid, a carbohydrate, a subcellular structure and an organelle.

Claim 42 (Original): The computer program product of claim 40 wherein said manipulation occurs in a manner selected from a electrical source, a chemical source, a thermal source, a gravitational source, a nuclear source, a temporal source, and a biological source.

Claim 43 (Original): The computer program product of claim 42 wherein said chemical source is selected from a pharmacological candidate and a drug screening library.

Claims 44-50 (Cancelled).

Claim 51 (Previously Presented): The computer program product of claim 40 wherein the cells are NCI-H460, A549, MDA-MD-231, MCF-7, SK-OV-3, OVCAR-3, A498, U-2 OS, or HeLa cells.

Claim 52 (Cancelled).